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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,947	10/29/2003	Katsuhiko Nishiwaki	06226.0052-00	6140

7590 01/05/2005  
Finnegan, Henderson, Farabow,  
Garrett & Dunner, L.L.P.  
1300 I Street, N.W.  
Washington, DC 20005-3315

EXAMINER
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PRENTY, MARK V

ART UNIT	PAPER NUMBER
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2822

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/694,947

Applicant(s)

NISHIWAKI ET AL.

Examiner

MARK V PRENTY

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-4 is/are rejected.  
7) ☒ Claim(s) 5-20 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date October 29, 2003.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

This Office Action is in response to the papers filed on October 29, 2003.

Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Hamada (United States Patent 6,803,628).

With respect to independent claim 1, Hamada discloses a field-effect-type semiconductor device (see the entire patent, including the Figs. 1-2 disclosure) comprising: a channel region 24 of a first (P) conduction-type semiconductor; a first-conduction-type emitter region 32 being in contact with the channel region, and being a first conduction type semiconductor with higher (P+) concentration than that of the (P-) channel region; a gate electrode 26 penetrating the channel region, and insulated (by insulating layer 27) from the channel region 24 and the first-conduction-type emitter region 32; and an emitter electrode 38 (Fig. 2) being in (physical and electrical) contact with the channel region 24 and with the first-conduction-type emitter region 32.

Claim 1 is thus rejected under 35 U.S.C. 102(e) as being anticipated by Hamada.

With respect to dependent claim 2, Hamada's device further comprises a second (N) conduction-type emitter region 28/30 being insulated from the gate electrode 26, the second-conduction-type emitter region 28/30 being a second-conduction-type semiconductor, wherein the second-conduction-type emitter region 28/30 is in contact with the channel region 24 (i.e., physical contact) and the emitter electrode 38 (i.e., physical and electrical contact), and the gate electrode 26 faces the second-conduction-type emitter region 28/30, the channel region 24 and a contact portion of those regions.

Claim 2 is thus rejected under 35 U.S.C. 102(e) as being anticipated by Hamada.

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With respect to dependent claims 3 and 4, Hamada's gate electrodes 26 are formed linearly, and channel regions 24 are formed discretely between adjoining gate electrodes at surface level.

Claims 3 and 4 are thus rejected under 35 U.S.C. 102(e) as being anticipated by Hamada.

Claims 5-20 are objected to as being dependent upon a rejected base claim, but would be allowable over the prior art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not disclose or suggest the allowable field-effect-type semiconductor devices taken as a whole, including the second-conduction-type emitter region.

United States Patent Application Publication 2004/0084725 is related to this application.

Registered practitioners can telephone the examiner at (571) 272-1843. Any voicemail message left for the examiner must include the name and registration number of the registered practitioner calling, and the Application/Control (Serial) Number. Technology Center 2800's general telephone number is (571) 272-2800.

  
Mark V. Prenty  
Primary Examiner